

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 21, 2011

MEMORANDUM FOR: Timothy Dwyer, Technical Director
FROM: Jonathan Plaue, DNFSB Site Representative
SUBJECT: LLNL Activity Report for Week Ending October 21, 2011

DNFSB Staff Activity: J. Anderson and R. Rosen were at the adjacent Livermore location of the Sandia National Laboratories to observe training on the B83 nuclear bomb for the Nuclear Explosives Safety Study group. Several LLNL personnel participated in the training.

Emergency Management and Fire Protection: In late August, the contractor performed the annual Emergency Planning Hazards Assessment exercise in the Building 321/322 complex. While this is a non-nuclear facility, the after action report noted issues with the emergency Evacuation Voice Alarm (EVA) system, which provides fire alarm and communications to the entire site including the nuclear facilities. The report notes that the EVA system did not function in some areas of the facility during the exercise. As a result, occupants did not hear protective action announcements. There remains some disagreement on whether the system was formally impaired ahead of the exercise. The fact remains that neither the system nor the impairment compensatory measures resulted in adequate communication to workers. The Board's staff has previously observed concerns with the configuration management and software quality assurance of the EVA system (see weekly reports dated April 16, 2010, and June 17, 2011).

Conduct of Engineering: On Monday, the contractor performed the final engineering review for the process and tooling planned for disassembly of the nuclear explosive like assembly (see weekly report dated April 8, 2011). The presenter provided presentation materials, a procedure-like document, and safety notes to the review committee ahead of the review. During the review, it was evident that not all of the committee members had reviewed the material and were prepared to engage at a detailed level. The committee identified a number of actions for closure. One of the actions concerned whether the procedure-like document would be considered a formal procedure or work instructions, and whether its content comported with institutional expectations for the chosen type.

Work Planning and Control: On October 3, 2011, the report on the contractor was issued from last month's review by the Office of Health, Safety and Security (HSS). The report noted that the hazards were properly identified and analyzed for most of the work observed in the nuclear facilities, though some exceptions were noted. Moreover, HSS found that the Operational Safety Plans were of high quality and contained detailed information on work scope, hazards, and controls. HSS also examined progress toward completion of commitments made in response to the Board letter dated June 14, 2010, and found that most were proceeding on schedule. Overall, HSS identified five issues:

- Inadequate implementation of the work control processes used by the institutional maintenance service, some of which apply to the nuclear facilities
- Insufficient implementation of Integrated Work Sheets in the nuclear facilities
- Inconsistent implementation of an effective management self-assessment program
- Incomplete implementation of an effective program to evaluate causes and extent of condition
- Incomplete implementation of timely event analysis or ensured that results of other analyses are appropriately evaluated and dispositioned